

Amendments to the Claims:

Please cancel claims 8 and 9 without prejudice or disclaimer of the subject matter thereof and add the following new claims.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 7 (canceled)

Claims 8 and 9 (canceled)

10. (new) An apparatus for plasma processing of a nonvolatile material, the apparatus comprising means for performing aging treatment, for performing plasma processing of nonvolatile material and for performing cleaning treatment, the performing means includes a vacuum vessel made of alumina forming a plasma producing part, gas supply means for supplying gas to the vacuum vessel, an antenna for generating an electric field in the plasma producing part, a Faraday shield provided at an outer periphery of the vacuum vessel, high-frequency electric source means for supplying high-frequency electric power to at least one of the antenna and the Faraday shield, and an end point determination and detection means, the performing means for performing aging treatment includes transfer means for transferring a dummy wafer to an electrode which supports the dummy wafer in the vacuum vessel for effecting aging treatment when the gas supply means supplies gas to the vacuum vessel and the high-frequency electric source means supplies voltage at least to the Faraday shield, the performing means performing plasma processing of the nonvolatile material by the gas supplying means supplying

gas to the vacuum vessel and the high-frequency electric source means supplying voltage at least to the antenna after performance of the aging treatment whereby reaction products are generated in the vacuum vessel and are deposited on the inner wall of the vacuum vessel, the performing means performing cleaning treatment of the vacuum vessel after performance of the plasma processing by the gas supply means supplying gas containing at least boron trichloride and chlorine to the vacuum vessel and the high-frequency electric source means supplying a voltage of at least 500V at least to the Faraday shield so as to clean the inner wall of the vacuum vessel, and the end point determination and detecting means detecting the end point of cleaning of the inner wall of the vacuum vessel by detecting emission wavelength of reaction products when the cleaning of the vacuum vessel is effected.

11. (new) An apparatus for plasma processing of a nonvolatile material, the apparatus comprising means for performing aging treatment, for performing plasma processing of nonvolatile material and for performing cleaning treatment, the performing means includes a vacuum vessel made of alumina forming a plasma producing part, gas supply means for supplying gas to the vacuum vessel, an antenna for generating an electric field in the plasma producing part, a Faraday shield provided at an outer periphery of the vacuum vessel, high-frequency electric source means for supplying high-frequency electric power to at least one of the antenna and the Faraday shield, and an end point determination and detection means, the performing means for performing aging treatment includes transfer means for transferring a dummy wafer to an electrode which supports the dummy wafer in the vacuum vessel for effecting aging treatment when the gas supply means

supplies gas to the vacuum vessel and the high-frequency electric source means supplies voltage at least to the Faraday shield, the performing means performing plasma processing of the nonvolatile material by the gas supplying means supplying gas to the vacuum vessel and the high-frequency electric source means supplying voltage at least to the antenna after performance of the aging treatment, the performing means performing cleaning treatment of the vacuum vessel after performance of the plasma processing by the gas supply means supplying gas containing at least boron trichloride and chlorine to the vacuum vessel and the high-frequency electric source means supplying a voltage of at least 500V at least to the Faraday shield so as to clean the inner wall of the vacuum vessel, and the end point determination and detecting means detecting the end point of cleaning of the inner wall of the vacuum vessel by detecting emission wavelength of reaction products formed from the vacuum vessel when the cleaning of the vacuum vessel is effected.